

INTERCEPTION OF WET DEPOSITION AND TRANSFER OF RADIOCAESIUM AND RADIOSTRONTIUM BY BRASSICA NAPUS L., TRITICUM AESTIVUM L. AND LEY.

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The transfer of intercepted radionuclides to edible plants is assumed to be high during the first year following wet deposition, but we can't yet quantify this transfer pathway and estimate risk for transfer to edible parts. The level of radionuclide capture, or interception, by plant parts depends on weather conditions, physico-chemical form of the radionuclides, plant morphology and biomass density. The time from deposition to harvest also has an effect on the total uptake of radionuclides in plants.

In the present study, we analyzed the interception and the transfer of wet deposited ^{134}Cs and ^{85}Sr to two edible crops, spring wheat (*Triticum aestivum* L.) and spring oilseed rape (*Brassica napus* L.) and also to a pasture crop that consisted of the flowering species, red clover (*Trifolium pratense* L.), white clover (*Trifolium repens* L.), timothy (*Phleum pratense* L.), x *Festulolium loliaceum* (Hudson) P. Fourn and perennial ray grass (*Lolium perenne* L.). How the transfer is dependent on development stage of the crops e.g. the total plant biomass and leaf area index (LAI). The radionuclides that were used, ^{134}Cs and ^{85}Sr , were deposited at six different development stages using simulated rainfall. The study was conducted at an agricultural field at Ultuna, Uppsala during the summer 2010. LAI was measured by using a LAI 2000 device (LI-COR, Nebraska, USA). Biomass samples were dried, weighed and activity measured with High-Purity Germanium (HPGe) detector.

Results from the present study will be present at the international conference on radioecology & environmental radioactivity in Canada.